10521972.trn

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NEWS 1		Web Page for STN Seminar Schedule - N. America
NEWS 2	JAN 08	CHEMLIST enhanced with New Zealand Inventory of Chemicals
NEWS 3	JAN 16	CA/CAplus Company Name Thesaurus enhanced and reloaded
NEWS 4	JAN 16	IPC version 2007.01 thesaurus available on STN
NEWS 5	JAN 16	WPIDS/WPINDEX/WPIX enhanced with IPC 8 reclassification data
NEWS 6	JAN 22	CA/CAplus updated with revised CAS roles
NEWS 7	JAN 22	CA/CAplus enhanced with patent applications from India
NEWS 8	JAN 29	PHAR reloaded with new search and display fields
NEWS 9	JAN 29	CAS Registry Number crossover limit increased to 300,000 in multiple databases
NEWS 10	FEB 15	PATDPASPC enhanced with Drug Approval numbers
NEWS 11	FEB 15	RUSSIAPAT enhanced with pre-1994 records
NEWS 12	FEB 23	KOREAPAT enhanced with IPC 8 features and functionality
NEWS 13	FEB 26	MEDLINE reloaded with enhancements
NEWS 14	FEB 26	EMBASE enhanced with Clinical Trial Number field
NEWS 15	FEB 26	TOXCENTER enhanced with reloaded MEDLINE
NEWS 16	FEB 26	IFICDB/IFIPAT/IFIUDB reloaded with enhancements
NEWS 17	FEB 26	CAS Registry Number crossover limit increased from 10,000 to 300,000 in multiple databases
NEWS 18	MAR 15	WPIDS/WPIX enhanced with new FRAGHITSTR display format
NEWS 19	MAR 16	CASREACT coverage extended
NEWS 20	MAR 20	MARPAT now updated daily
NEWS 21	MAR 22	LWPI reloaded
NEWS 22	MAR 30	RDISCLOSURE reloaded with enhancements
NEWS 23	APR 02	JICST-EPLUS removed from database clusters and STN
NEWS 24	APR 30	GENBANK reloaded and enhanced with Genome Project ID field
NEWS 25	APR 30	CHEMCATS enhanced with 1.2 million new records
NEWS 26	APR 30	CA/CAplus enhanced with 1870-1889 U.S. patent records
NEWS 27	APR 30	INPADOC replaced by INPADOCDB on STN
NEWS 28	MAY 01	New CAS web site launched
NEWS 29	MAY 08	CA/CAplus Indian patent publication number format defined

NEWS EXPRESS	NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 13:08:04 ON 10 MAY 2007

=>
Uploading
THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE
Do you want to switch to the Registry File?
Choice (Y/n):
Switching to the Registry File...
Some commands only work in certain files. For example, the EXPAND command can only be used to look at the index in a file which has an index. Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of commands which can be used in this file.

=> FILE REGISTRY

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 13:08:18 ON 10 MAY 2007
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 9 MAY 2007 HIGHEST RN 934521-72-9
DICTIONARY FILE UPDATES: 9 MAY 2007 HIGHEST RN 934521-72-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

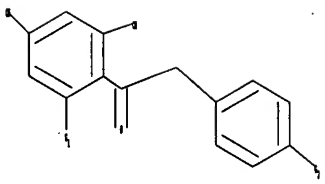
TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

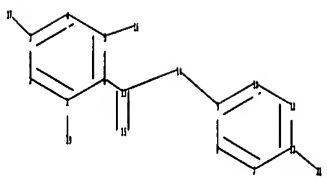
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Program Files\Stnexp\Queries\10521972.str





chain nodes :
13 14 15 16 17 19 21
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12
chain bonds :
1-19 3-17 5-16 6-13 9-14 12-21 13-14 13-15
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12
exact/norm bonds :
1-19 3-17 5-16 12-21 13-15
exact bonds :
6-13 9-14 13-14
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12
isolated ring systems :
containing 1 : 7 :

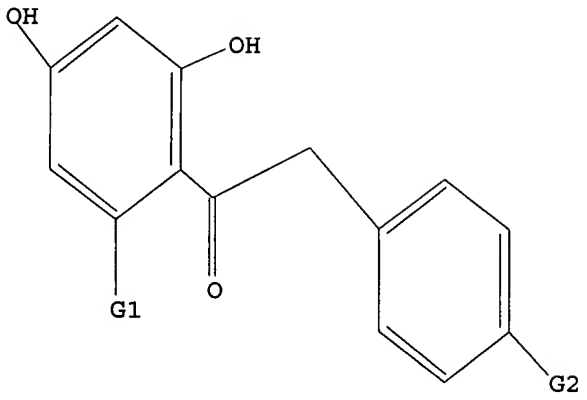
G1:H,OH

G2:OH,MeO,EtO,n-PrO,n-BuO

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 19:CLASS
21:CLASS

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR

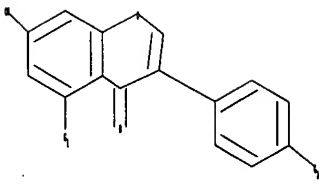


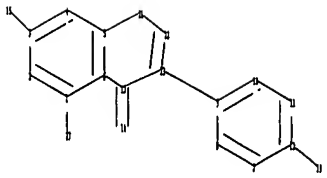
G1 H,OH

G2 OH,MeO,EtO,n-PrO,n-BuO

Structure attributes must be viewed using STN Express query preparation.

```
=> s l1
SAMPLE SEARCH INITIATED 13:08:35 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -      114 TO ITERATE

100.0% PROCESSED      114 ITERATIONS                          11 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:         1640 TO     2920
PROJECTED ANSWERS:              22 TO      418

L2            11 SEA SSS SAM L1

=> s l1 sss full
FULL SEARCH INITIATED 13:08:42 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -     2486 TO ITERATE

100.0% PROCESSED     2486 ITERATIONS                         195 ANSWERS
SEARCH TIME: 00.00.01

L3          195 SEA SSS FUL L1

=>
Uploading C:\Program Files\Stnexp\Queries\10521972a.str
```





chain nodes :
14 15 17 19
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 21 22 23
chain bonds :
1-17 3-15 9-23 12-19 13-14
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 5-21 6-13 7-8 7-12 8-9 9-10 10-11 11-12 13-23
21-22 22-23
exact/norm bonds :
1-17 3-15 12-19 13-14
exact bonds :
5-21 6-13 9-23 13-23 21-22 22-23
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12
isolated ring systems :
containing 1 : 7 :

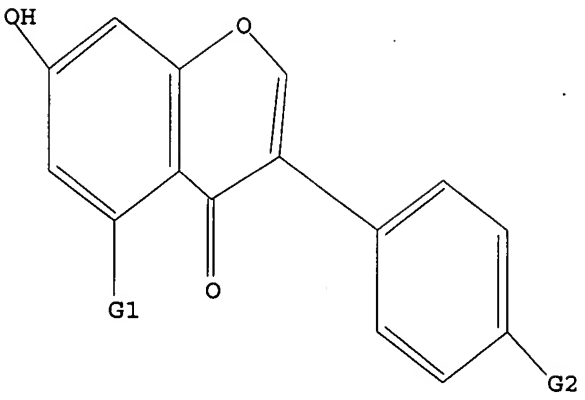
G1:H,OH

G2:OH,MeO,EtO,n-PrO,n-BuO

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:CLASS 14:CLASS 15:CLASS 17:CLASS 19:CLASS 21:CLASS
22:Atom 23:Atom

L4 STRUCTURE UPLOADED

=> d l4
L4 HAS NO ANSWERS
L4 STR

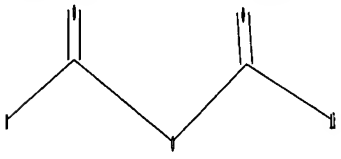


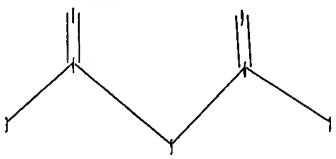
G1 H,OH

G2 OH,MeO,EtO,n-PrO,n-BuO

Structure attributes must be viewed using STN Express query preparation.

```
=> s l4
SAMPLE SEARCH INITIATED 13:11:47 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -      793 TO ITERATE

100.0% PROCESSED      793 ITERATIONS                          40 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:        14171 TO    17549
PROJECTED ANSWERS:             421 TO     1179

L5            40 SEA SSS SAM L4

=> s l4 sss full
FULL SEARCH INITIATED 13:11:53 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -    15967 TO ITERATE

100.0% PROCESSED    15967 ITERATIONS                        897 ANSWERS
SEARCH TIME: 00.00.01

L6           897 SEA SSS FUL L4

=>
Uploading C:\Program Files\Stnexp\Queries\10521972b.str
```





```
chain nodes :
3  4  5  6  7  8  9
chain bonds :
3-4  4-5  4-8  5-6  6-7  6-9
```

10521972.trn

exact/norm bonds :
4-5 4-8 5-6 6-7 6-9
exact bonds :
3-4

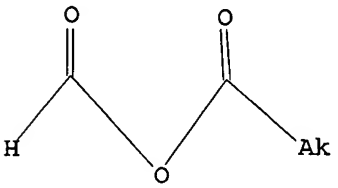
G1:H,OH

G2:OH,MeO,EtO,n-PrO,n-BuO

Match level :
3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS

L7 STRUCTURE UPLOADED

=> d l7
L7 HAS NO ANSWERS
L7 STR



G1 H,OH
G2 OH,MeO,EtO,n-PrO,n-BuO

Structure attributes must be viewed using STN Express query preparation.

=> s l7
SAMPLE SEARCH INITIATED 13:16:53 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 7792 TO ITERATE

25.7% PROCESSED 2000 ITERATIONS 0 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 150549 TO 161131
PROJECTED ANSWERS: 0 TO 0

L8 0 SEA SSS SAM L7

=> s l7 sss full
FULL SEARCH INITIATED 13:17:01 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 154780 TO ITERATE

100.0% PROCESSED 154780 ITERATIONS 40 ANSWERS
SEARCH TIME: 00.00.02

L9 40 SEA SSS FUL L7

```
=> FIL HCAPLUS
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   521.70     521.91

FILE 'HCAPLUS' ENTERED AT 13:17:09 ON 10 MAY 2007
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FILE COVERS 1907 - 10 May 2007  VOL  ISS  ISS
FILE LAST UPDATED: 9 May 2007  (20070509/ED)
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FILE COVERS 1907 - 10 May 2007  VOL 146 ISS 20
FILE LAST UPDATED: 1 May 2007  (20070501/ED)

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 This file contains CAS Registry Numbers for easy and accurate

=> d his

     (FILE 'HOME' ENTERED AT 13:08:04 ON 10 MAY 2007)

     FILE 'REGISTRY' ENTERED AT 13:08:18 ON 10 MAY 2007
L1              STRUCTURE UPLOADED
L2           11 S L1
L3          195 S L1 SSS FULL
L4              STRUCTURE UPLOADED
L5           40 S L4
L6          897 S L4 SSS FULL
L7              STRUCTURE UPLOADED
L8            0 S L7
L9           40 S L7 SSS FULL

     FILE 'HCAPLUS' ENTERED AT 13:17:09 ON 10 MAY 2007

=> s l3
L10         557 L3

=> s l6
L11        8900 L6

=> s l9
L12         405 L9

=> s l10 and l12
L13           8 L10 AND L12

=> s l10 and l11
L14         380 L10 AND L11
```

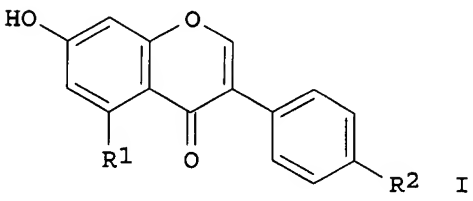
=> s l11 and l12
L15 8 L11 AND L12

=> d l13 ibib abs hitstr tot

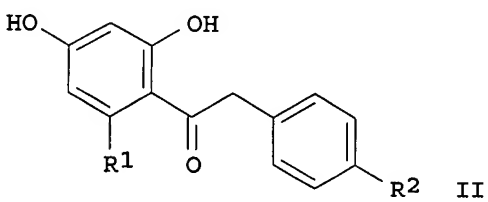
L13 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:80674 HCAPLUS
DOCUMENT NUMBER: 140:128190
TITLE: Process for manufacturing hydroxylated isoflavones by reacting 2-hydroxydeoxybenzoins with formic acid anhydride derivatives
INVENTOR(S): Burdet, Bruno; Ruettimann, August
PATENT ASSIGNEE(S): Roche Vitamins Ag, Switz.; DSM IP Assets B.V.
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004009576	A2	20040129	WO 2003-EP7575	20030714
WO 2004009576	A3	20040513		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2492201	A1	20040129	CA 2003-2492201	20030714
AU 2003254341	A1	20040209	AU 2003-254341	20030714
EP 1523478	A2	20050420	EP 2003-764976	20030714
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003012840	A	20050426	BR 2003-12840	20030714
CN 1684950	A	20051019	CN 2003-817676	20030714
JP 2005534682	T	20051117	JP 2004-522445	20030714
US 2005256321	A1	20051117	US 2005-521972	20050121
PRIORITY APPLN. INFO.:			EP 2002-16494 A	20020723
			WO 2003-EP7575 W	20030714

OTHER SOURCE(S): CASREACT 140:128190; MARPAT 140:128190
GI



I



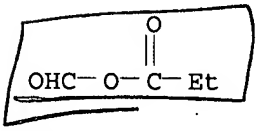
II

AB The present invention discloses a process for manufacturing hydroxylated isoflavone derivs., such as I [R1 = H, OH; R2 = OH, alkoxy] by reacting an appropriately substituted 2-hydroxydeoxybenzoin derivs. II with formic acid anhydride, HCOOCOR3 [R3 = alkyl, haloalkyl, alkoxymethyl, carboxyalkyl, arylalkyl, cycloalkyl, aryl, heteroaryl, aminoalkyl, alkoxy, aryloxy], in the presence of a base or in a solvent which acts as a base, and if necessary promoting the ensuing hydrolysis of the so-produced acylated form of I by acidification. Of particular interest as products of this process are the 5,7-dihydroxyisoflavones, e.g. genistein I [R1, R2 = OH (III)]. Thus, propionyl formic anhydride, formed by the reaction of sodium formate and propionyl chloride, was reacted with II [R1, R2 = OH], and the product was hydrolyzed to afford III of 98.9% purity. Isoflavones display many useful biochem. effects.

IT 10500-31-9P, Propionyl formic anhydride
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(process for manufacturing hydroxylated isoflavones by reacting 2-hydroxydeoxybenzoins with formic acid anhydride derivs.)

RN 10500-31-9 HCAPLUS

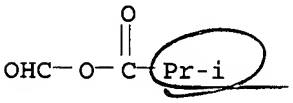
CN Propanoic acid, anhydride with formic acid (9CI) (CA INDEX NAME)



IT 10500-33-1, Isobutyric formic anhydride 15485-65-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for manufacturing hydroxylated isoflavones by reacting 2-hydroxydeoxybenzoins with formic acid anhydride derivs.)

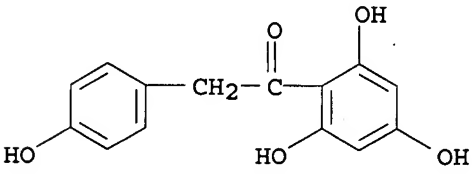
RN 10500-33-1 HCAPLUS

CN Propanoic acid, 2-methyl-, anhydride with formic acid (9CI) (CA INDEX NAME)



RN 15485-65-1 HCAPLUS

CN Ethanone, 2-(4-hydroxyphenyl)-1-(2,4,6-trihydroxyphenyl)- (CA INDEX NAME)



L13 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:832777 HCAPLUS

DOCUMENT NUMBER: 137:337726

TITLE: Process for preparing isoflavone derivatives from 2-hydroxyaryl alkyl ketones in the presence of formic-sulfuric anhydride salt

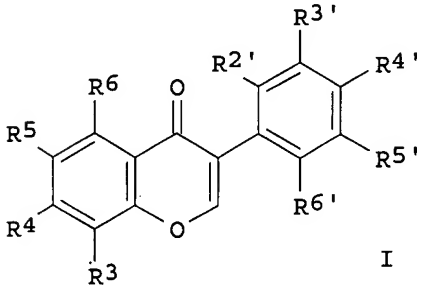
INVENTOR(S): Burdick, David Carl
PATENT ASSIGNEE(S): Roche Vitamins A.-G., Switz.
SOURCE: PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002085881	A1	20021031	WO 2002-EP4319	20020419
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2443431	A1	20021031	CA 2002-2443431	20020419
AU 2002338399	A1	20021105	AU 2002-338399	20020419
EP 1392671	A1	20040303	EP 2002-742905	20020419
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2002009157	A	20040608	BR 2002-9157	20020419
CN 1505621	A	20040616	CN 2002-808879	20020419
JP 2004526784	T	20040902	JP 2002-583408	20020419
US 2004158082	A1	20040812	US 2004-474418	20040311
US 7109358	B2	20060919		

PRIORITY APPLN. INFO.: EP 2001-110212 A 20010425
WO 2002-EP4319 W 20020419

OTHER SOURCE(S): CASREACT 137:337726; MARPAT 137:337726

GI



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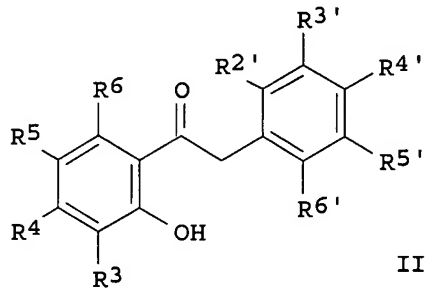


II

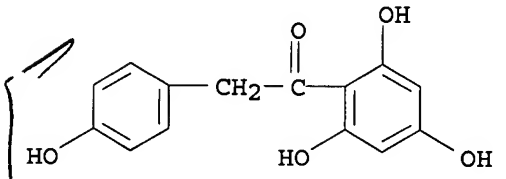
AB The invention relates to a process for preparing isoflavone derivs., such as I [R3 = H, OH, alkyl; R4 = H, OH, alkoxyl; R5, R6, R2', R3', R5', R6' = H, OH, alkoxyl, alkyl; R4' = H, OH, alkoxyl], from 2-hydroxyaryl alkyl ketone (II) in the presence of a base with formic-sulfuric anhydride salt, such as (HCOOSO3-)nX+n [X = metallic cation, ammonium, amine salt, heterocyclic base, quaternary ammonium, phosphonium salt including polymeric or polymer bound forms thereof; n = 1-4]. Thus, reaction between sodium formylsulfate (prepared in situ by the reaction of sodium formate and sulfur

trioxide-dimethylformamide complex) and 2,4,6-trihydroxyphenyl-4'-hydroxybenzyl ketone afforded genistein (5,7,4'-trihydroxyisoflavone) in 95% yield.

IT 15485-65-1, 2,4,6-Trihydroxyphenyl-4'-hydroxybenzyl ketone
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of isoflavones from (2-hydroxyaryl) alkyl ketones in the presence of formic-sulfuric anhydride salt)

RN 15485-65-1 HCAPLUS

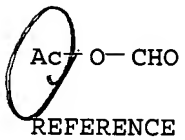
CN Ethanone, 2-(4-hydroxyphenyl)-1-(2,4,6-trihydroxyphenyl)- (CA INDEX NAME)



IT 2258-42-6P, Formic acetic anhydride
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of isoflavones from (2-hydroxyaryl) alkyl ketones in the presence of formic-sulfuric anhydride salt)

RN 2258-42-6 HCAPLUS

CN Acetic acid, anhydride with formic acid (CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:212822 HCAPLUS

DOCUMENT NUMBER: 118:212822

TITLE: Formic acetic anhydride in the synthesis of chromones. 2. Synthesis of 3-arylchromones

AUTHOR(S): Pivovarenko, V. G.; Khilya, V. P.

CORPORATE SOURCE: Kiev. Gos. Univ., Kiev, 252017, Ukraine

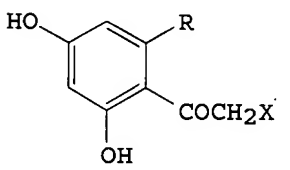
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1992), (5), 595-600
CODEN: KGSSAQ; ISSN: 0132-6244

DOCUMENT TYPE: Journal

LANGUAGE: Russian

OTHER SOURCE(S): CASREACT 118:212822

GI



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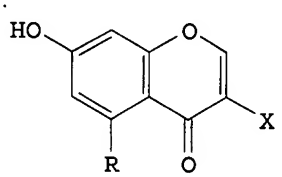


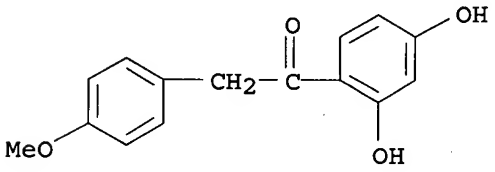
II

AB Dihydroxyphenylacetophenone I (R = H, X = Ph) underwent cyclization to

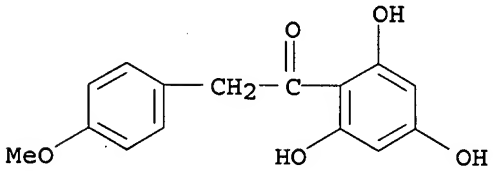
arylchromone II (near quant. yield) in reaction with HCO2Ac via initial formylation of I under mild conditions, followed by base-catalyzed cyclization. Trialkylamines were the most effective cyclization catalysts. Et3N catalyzed the cyclization of other I derivs. (R = H, OH; X = e.g., substituted Ph or furyl) to II. The cyclization is most effectively applied to preparation of II containing electron-withdrawing X groups.

IT 487-49-0 15485-66-2 17720-60-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(heterocyclization of, with formic acetic anhydride, trialkylamine-catalyzed)

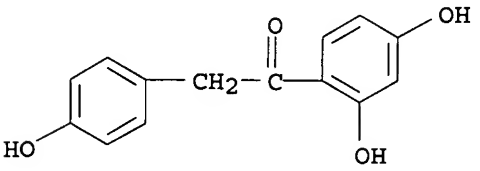
RN 487-49-0 HCAPLUS
CN Ethanone, 1-(2,4-dihydroxyphenyl)-2-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 15485-66-2 HCAPLUS
CN Ethanone, 2-(4-methoxyphenyl)-1-(2,4,6-trihydroxyphenyl)- (CA INDEX NAME)

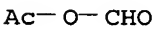


RN 17720-60-4 HCAPLUS
CN Ethanone, 1-(2,4-dihydroxyphenyl)-2-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



IT 2258-42-6, Formic acetic anhydride
RL: RCT (Reactant); RACT (Reactant or reagent)
(heterocyclization reaction of, with hydroxyacetophenones, trialkylamine-catalyzed)

RN 2258-42-6 HCAPLUS
CN Acetic acid, anhydride with formic acid (CA INDEX NAME)



L13 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:20893 HCAPLUS
DOCUMENT NUMBER: 116:20893
TITLE: Formic acetic anhydride in the synthesis of chromones. 1. Synthesis of 3-heteroarylchromones
AUTHOR(S): Pivovarenko, V. G.; Khilya, V. P.
CORPORATE SOURCE: Kiev. Gos. Univ., Kiev, 252017, USSR
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1991), (5), 625-31
CODEN: KGSSAQ; ISSN: 0453-8234
DOCUMENT TYPE: Journal
LANGUAGE: Russian
OTHER SOURCE(S): CASREACT 116:20893
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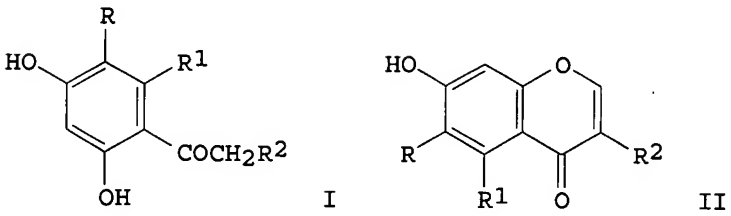
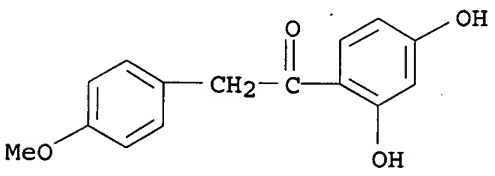
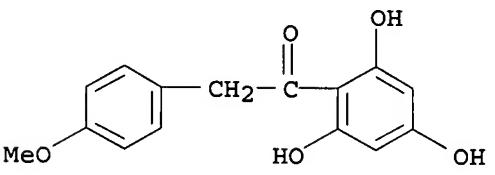


AB The reaction of hetarylacetophenones I (R = H, Me, Pr, 1-hexyl; R1 = H, OH, CO2H; R2 = azolyl, substituted Ph) with HCO2COMe gives, under HCO2Na catalysis, chromones II. The yield of II and the reaction rate increase with increasing π-deficiency of the hetaryl substituent or with the presence of an OH group in the C6 position of the starting acetophenone. II (R2 = azolyl) are formed even in the absence of catalyst.
IT 487-49-0 15485-66-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation of, with formic acetic anhydride)
RN 487-49-0 HCAPLUS
CN Ethanone, 1-(2,4-dihydroxyphenyl)-2-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



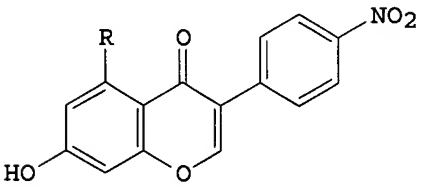
RN 15485-66-2 HCAPLUS
CN Ethanone, 2-(4-methoxyphenyl)-1-(2,4,6-trihydroxyphenyl)- (CA INDEX NAME)



IT 2258-42-6P, Formic acetic anhydride
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclocondensation of, with hetarylacetophenones)
RN 2258-42-6 HCAPLUS
CN Acetic acid, anhydride with formic acid (CA INDEX NAME)

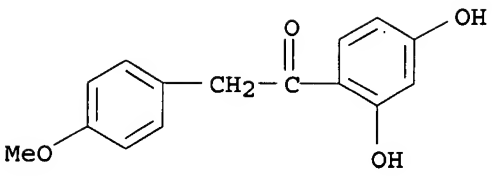
Ac—O—CHO

L13 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:6375 HCAPLUS
DOCUMENT NUMBER: 116:6375
TITLE: A facile and practical preparation of 5,7-dihydroxy-3-(4-nitrophenyl)-4H-1-benzopyran-4-one
AUTHOR(S): Liu, D. F.; Cheng, C. C.
CORPORATE SOURCE: Cancer Cent., Univ. Kansas, Kansas City, KS, 66103, USA
SOURCE: Journal of Heterocyclic Chemistry (1991), 28(6), 1641-2
CODEN: JHTCAD; ISSN: 0022-152X
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 116:6375
GI

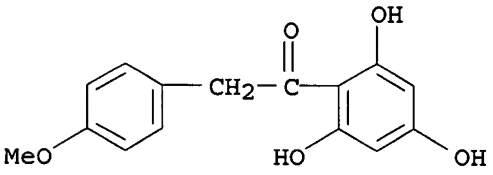


I

AB In spite of the fact that several preparative methods for the synthesis of hydroxylated isoflavones were reported during the past fifty years, none is suitable for the preparation of isoflavones containing 5,7-dihydroxy functions.
This paper reports a simple, large scale preparation of 5,7-dihydroxy-3-(4-nitrophenyl)-4H-1-benzopyran-4-one (I, R = OH) by the condensation of the readily available 2,4,6-(HO)3C6H2COCH2C6H4NO2-4 and acetic formic anhydride in high yields. Similar isoflavones, such as I (R = H), can also be obtained in good yields in an analogous manner.
IT 487-49-0 15485-66-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation of, with acetic formic anhydride)
RN 487-49-0 HCAPLUS
CN Ethanone, 1-(2,4-dihydroxyphenyl)-2-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 15485-66-2 HCAPLUS
CN Ethanone, 2-(4-methoxyphenyl)-1-(2,4,6-trihydroxyphenyl)- (CA INDEX NAME)



IT 2258-42-6P, Acetic formic anhydride
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(formation and cyclocondensation of, with phenyl(hydroxyphenyl)ethanone
s)
RN 2258-42-6 HCAPLUS
CN Acetic acid, anhydride with formic acid (CA INDEX NAME)

L13 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:405988 HCAPLUS
DOCUMENT NUMBER: 113:5988
TITLE: Simple and effective synthesis of isoflavones and 3-arylhydroxychromones
AUTHOR(S): Pivovarenko, V. G.; Khilya, V. P.; Vasil'ev, S. A.
CORPORATE SOURCE: Kiev. Gos. Univ., Kiev, USSR
SOURCE: Khimiya Prirodnykh Soedinenii (1989), (5), 639-43
CODEN: KPSUAR; ISSN: 0023-1150
DOCUMENT TYPE: Journal
LANGUAGE: Russian
OTHER SOURCE(S): CASREACT 113:5988
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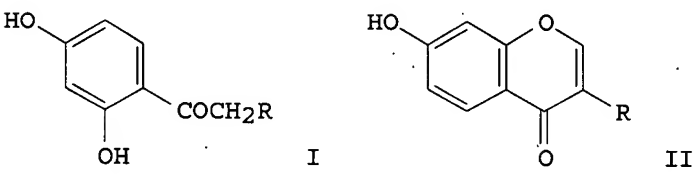
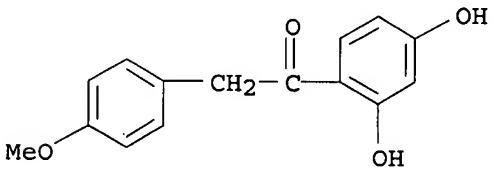


AB Cyclocondensation of acetophenones I (R = substituted Ph, PhO, p-FC6H4O) with MeCO2CHO, prepared from HCO2H and CH2:C:O, gave 15-99% isoflavones II. Similarly, I react with the Vilsmeier reagent to give 95.7-98.5% II.

IT 487-49-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation of, with formicacetic anhydride or Vilsmeier reagent, isoflavone from)
RN 487-49-0 HCAPLUS
CN Ethanone, 1-(2,4-dihydroxyphenyl)-2-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



IT 2258-42-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and cyclocondensation with hydroxyacetophenones, isoflavones from)
RN 2258-42-6 HCAPLUS
CN Acetic acid, anhydride with formic acid (CA INDEX NAME)

L13 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1986:129748 HCAPLUS
DOCUMENT NUMBER: 104:129748
TITLE: Synthesis of 5,7-dihydroxyisoflavones and their heterocyclic analogs using acetoformic anhydride
AUTHOR(S): Pivovarenko, V. G.; Khilya, V. P.
CORPORATE SOURCE: Kiiv. Derzh. Univ., Kiev, USSR
SOURCE: Dopovidi Akademii Nauk Ukrains'koi RSR, Seriya B: Geologichni, Khimichni ta Biologichni Nauki (1985), (7), 44-7
CODEN: DANND6; ISSN: 0377-9785
DOCUMENT TYPE: Journal
LANGUAGE: Ukrainian
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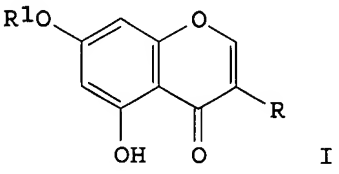
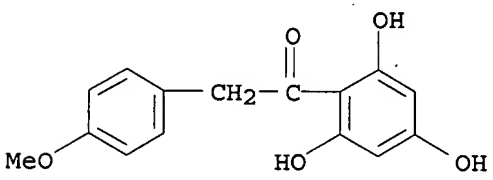


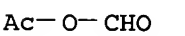
I

AB 2,4,6-(HO)3C6H2COCH2R [R = 2-pyridyl, 2-quinolyl, 2-methyl-4-thiazolyl, 5-(ethoxycarbonyl)-2-furyl, p-ClC6H4, o- and p-FC6H4, p-MeOC6H4, dihydro-6-benzodioxinyl] cyclized in the presence of HCO2Ac and either HCO2Na or Et3N to give the corresponding chromones I (R1 = H) in ≤100% yield. The intermediate I (R = heterocyclyl, R1 = HCO) were also isolated.

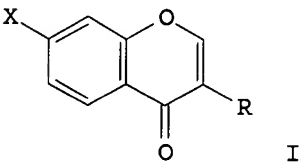
IT 15485-66-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, with acetoformic anhydride)
RN 15485-66-2 HCAPLUS
CN Ethanone, 2-(4-methoxyphenyl)-1-(2,4,6-trihydroxyphenyl)- (CA INDEX NAME)



IT 2258-42-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization with, of aryltrihydroxyacetophenones)
RN 2258-42-6 HCAPLUS
CN Acetic acid, anhydride with formic acid (CA INDEX NAME)



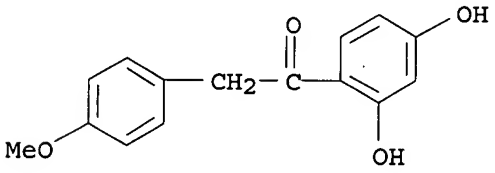
L13 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1985:541792 HCAPLUS
DOCUMENT NUMBER: 103:141792
TITLE: Acetic formic anhydride as a cyclizing reagent in the synthesis of isoflavones and 3-hetarylchromones
AUTHOR(S): Pivovarenko, V. G.; Khilya, V. P.; Babichev, F. S.
CORPORATE SOURCE: Kiiv. Derzh. Univ., Kiev, USSR
SOURCE: Dopovidi Akademii Nauk Ukrains'koi RSR, Seriya B: Geologichni, Khimichni ta Biologichni Nauki (1985), (4), 56-9
CODEN: DANND6; ISSN: 0377-9785
DOCUMENT TYPE: Journal
LANGUAGE: Ukrainian
GI



AB HCO2Ac catalyzed the cyclization of 2,4-(HO)2C8H4COCH2R [R = 2-pyridyl, 2- and 7-quinolyl, 2-methyl-4-thiazolyl, 5-(ethoxycarbonyl)-2-furyl, C6H4NO2-4, Ph, C6H4OMe-4, Me] in the presence of NaO2CH or Et3N to give ≤99% chromones I (X = HO, same R). The intermediate I (X = HCO2; R = 2-pyridyl, 2-quinolyl, 2-methyl-4-thiazolyl) were also isolated.
IT 2258-42-6
RL: CAT (Catalyst use); USES (Uses)
(catalysts, with base, for cyclization of dihydroxyacetophenones to chromones)

RN 2258-42-6 HCAPLUS
CN Acetic acid, anhydride with formic acid (CA INDEX NAME)

IT 487-49-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization of, chromone by, catalysts for)
RN 487-49-0 HCAPLUS
CN Ethanone, 1-(2,4-dihydroxyphenyl)-2-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



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L15 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:80674 HCAPLUS
DOCUMENT NUMBER: 140:128190
TITLE: Process for manufacturing hydroxylated isoflavones by reacting 2-hydroxydeoxybenzoins with formic acid anhydride derivatives
INVENTOR(S): Burdet, Bruno; Ruettimann, August
PATENT ASSIGNEE(S): Roche Vitamins Ag, Switz.; DSM IP Assets B.V.
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004009576	A2	20040129	WO 2003-EP7575	20030714
WO 2004009576	A3	20040513		
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
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AU 2003254341	A1	20040209	AU 2003-254341	20030714
EP 1523478	A2	20050420	EP 2003-764976	20030714
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK						
BR 2003012840	A	20050426	BR 2003-12840			20030714
CN 1684950	A	20051019	CN 2003-817676			20030714
JP 2005534682	T	20051117	JP 2004-522445			20030714
US 2005256321	A1	20051117	US 2005-521972			20050121
PRIORITY APPLN. INFO.:			EP 2002-16494		A	20020723
			WO 2003-EP7575		W	20030714

OTHER SOURCE(S): CASREACT 140:128190; MARPAT 140:128190

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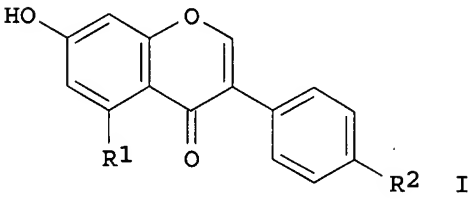

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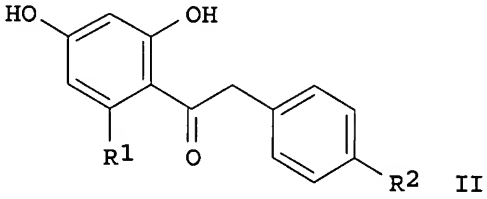


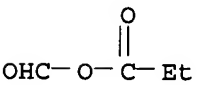
II

AB The present invention discloses a process for manufacturing hydroxylated isoflavone derivs., such as I [R1 = H, OH; R2 = OH, alkoxy] by reacting an appropriately substituted 2-hydroxydeoxybenzoin derivs. II with formic acid anhydride, HCOOCOR3 [R3 = alkyl, haloalkyl, alkoxymethyl, carboxyalkyl, arylalkyl, cycloalkyl, aryl, heteroaryl, aminoalkyl, alkoxy, aryloxy], in the presence of a base or in a solvent which acts as a base, and if necessary promoting the ensuing hydrolysis of the so-produced acylated form of I by acidification. Of particular interest as products of this process are the 5,7-dihydroxyisoflavones, e.g. genistein I [R1, R2 = OH (III)]. Thus, propionyl formic anhydride, formed by the reaction of sodium formate and propionyl chloride, was reacted with II [R1, R2 = OH], and the product was hydrolyzed to afford III of 98.9% purity. Isoflavones display many useful biochem. effects.

IT 10500-31-9P, Propionyl formic anhydride
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(process for manufacturing hydroxylated isoflavones by reacting 2-hydroxydeoxybenzoins with formic acid anhydride derivs.)

RN 10500-31-9 HCAPLUS

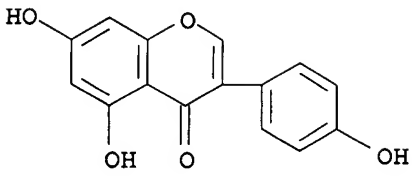
CN Propanoic acid, anhydride with formic acid (9CI) (CA INDEX NAME)



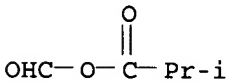
IT 446-72-0P, Genistein
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(process for manufacturing hydroxylated isoflavones by reacting 2-hydroxydeoxybenzoins with formic acid anhydride derivs.)

RN 446-72-0 HCAPLUS

CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-hydroxyphenyl)- (CA INDEX NAME)



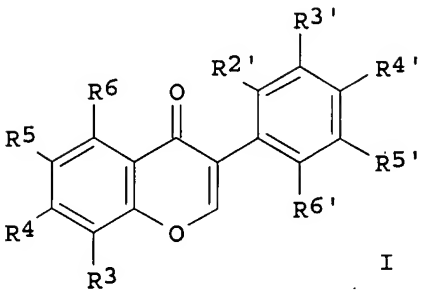
IT 10500-33-1, Isobutyric formic anhydride
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for manufacturing hydroxylated isoflavones by reacting 2-hydroxydeoxybenzoins with formic acid anhydride derivs.)
RN 10500-33-1 HCAPLUS
CN Propanoic acid, 2-methyl-, anhydride with formic acid (9CI) (CA INDEX NAME)



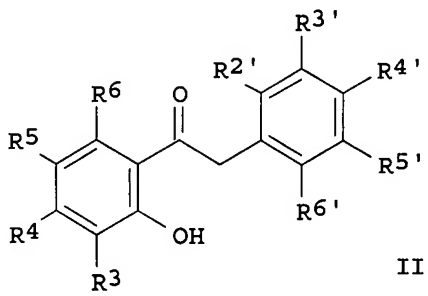
L15 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:832777 HCAPLUS
DOCUMENT NUMBER: 137:337726
TITLE: Process for preparing isoflavone derivatives from 2-hydroxyaryl alkyl ketones in the presence of formic-sulfuric anhydride salt
INVENTOR(S): Burdick, David Carl
PATENT ASSIGNEE(S): Roche Vitamins A.-G., Switz.
SOURCE: PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002085881	A1	20021031	WO 2002-EP4319	20020419
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2443431	A1	20021031	CA 2002-2443431	20020419
AU 2002338399	A1	20021105	AU 2002-338399	20020419
EP 1392671	A1	20040303	EP 2002-742905	20020419
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2002009157	A	20040608	BR 2002-9157	20020419
CN 1505621	A	20040616	CN 2002-808879	20020419
JP 2004526784	T	20040902	JP 2002-583408	20020419
US 2004158082	A1	20040812	US 2004-474418	20040311

US 7109358 B2 20060919
PRIORITY APPLN. INFO.: EP 2001-110212 A 20010425
WO 2002-EP4319 W 20020419
OTHER SOURCE(S): CASREACT 137:337726; MARPAT 137:337726
GI



I

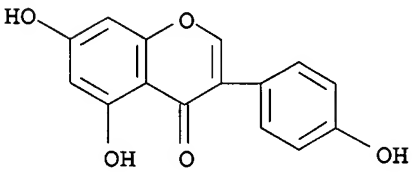


II

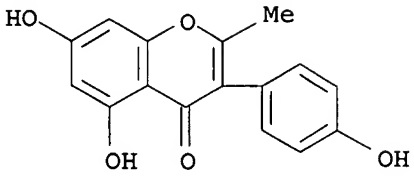
AB The invention relates to a process for preparing isoflavone derivs., such as I [R3 = H, OH, alkyl; R4 = H, OH, alkoxyl; R5, R6, R2', R3', R5', R6' = H, OH, alkoxyl, alkyl; R4' = H, OH, alkoxyl], from 2-hydroxyaryl alkyl ketone (II) in the presence of a base with formic-sulfuric anhydride salt, such as (HCOOSO3-)nX+n [X = metallic cation, ammonium, amine salt, heterocyclic base, quaternary ammonium, phosphonium salt including polymeric or polymer bound forms thereof; n = 1-4]. Thus, reaction between sodium formylsulfate (prepared in situ by the reaction of sodium formate and sulfur trioxide-dimethylformamide complex) and 2,4,6-trihydroxyphenyl-4'-hydroxybenzyl ketone afforded genistein (5,7,4'-trihydroxyisoflavone) in 95% yield.

IT 446-72-0P, Genistein 121324-24-1P, 2-Methylgenistein
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of isoflavones from (2-hydroxyaryl) alkyl ketones in the presence of formic-sulfuric anhydride salt)

RN 446-72-0 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-hydroxyphenyl)- (CA INDEX NAME)



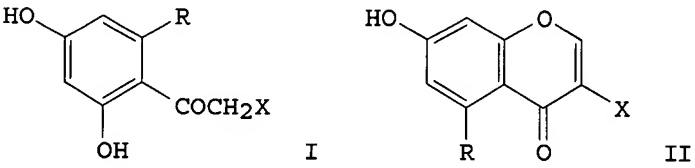
RN 121324-24-1 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-hydroxyphenyl)-2-methyl- (9CI) (CA INDEX NAME)



IT 2258-42-6P, Formic acetic anhydride
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of isoflavones from (2-hydroxyaryl) alkyl ketones in the presence of formic-sulfuric anhydride salt)
RN 2258-42-6 HCAPLUS
CN Acetic acid, anhydride with formic acid (CA INDEX NAME)

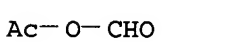
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1993:212822 HCAPLUS
DOCUMENT NUMBER: 118:212822
TITLE: Formic acetic anhydride in the synthesis of chromones. 2. Synthesis of 3-arylchromones
AUTHOR(S): Pivovarenko, V. G.; Khilya, V. P.
CORPORATE SOURCE: Kiev. Gos. Univ., Kiev, 252017, Ukraine
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1992), (5), 595-600
CODEN: KGSSAQ; ISSN: 0132-6244
DOCUMENT TYPE: Journal
LANGUAGE: Russian
OTHER SOURCE(S): CASREACT 118:212822
GI

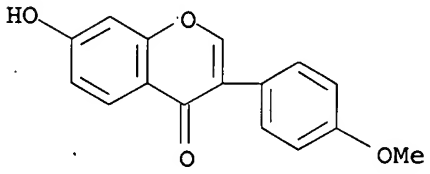


AB Dihydroxyphenylacetophenone I (R = H, X = Ph) underwent cyclization to arylchromone II (near quant. yield) in reaction with HCO2Ac via initial formylation of I under mild conditions, followed by base-catalyzed cyclization. Trialkylamines were the most effective cyclization catalysts. Et3N catalyzed the cyclization of other I derivs. (R = H, OH; X = e.g., substituted Ph or furyl) to II. The cyclization is most effectively applied to preparation of II containing electron-withdrawing X groups.
IT 2258-42-6, Formic acetic anhydride
RL: RCT (Reactant); RACT (Reactant or reagent)
(heterocyclization reaction of, with hydroxyacetophenones,

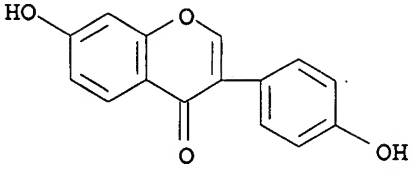
trialkylamine-catalyzed)
RN 2258-42-6 HCAPLUS
CN Acetic acid, anhydride with formic acid (CA INDEX NAME)



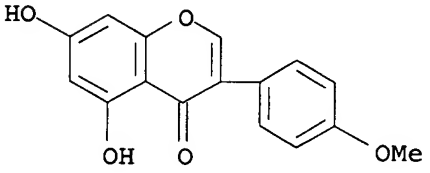
IT 485-72-3P 486-66-8P 491-80-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 485-72-3 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-methoxyphenyl)- (CA INDEX NAME)



RN 486-66-8 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-hydroxyphenyl)- (CA INDEX NAME)

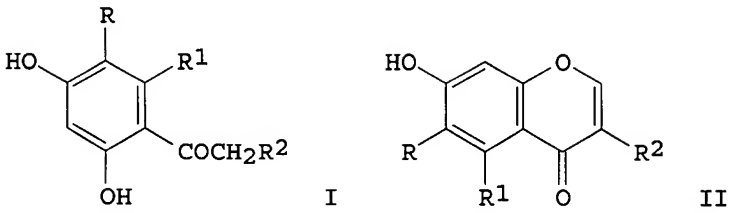


RN 491-80-5 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-methoxyphenyl)- (CA INDEX NAME)



L15 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:20893 HCAPLUS
DOCUMENT NUMBER: 116:20893
TITLE: Formic acetic anhydride in the synthesis of chromones. 1. Synthesis of 3-heteroarylchromones
AUTHOR(S): Pivovarenko, V. G.; Khilya, V. P.
CORPORATE SOURCE: Kiev. Gos. Univ., Kiev, 252017, USSR
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1991), (5), 625-31
CODEN: KGSSAQ; ISSN: 0453-8234
DOCUMENT TYPE: Journal
LANGUAGE: Russian

OTHER SOURCE(S): CASREACT 116:20893
GI



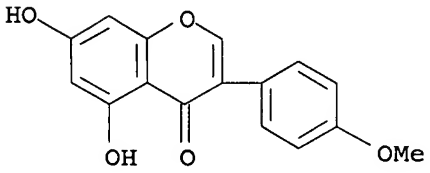
I II

AB The reaction of hetarylacetophenones I (R = H, Me, Pr, 1-hexyl; R1 = H, OH, CO2H; R2 = azolyl, substituted Ph) with HCO2COMe gives, under HCO2Na catalysis, chromones II. The yield of II and the reaction rate increase with increasing π-deficiency of the hetaryl substituent or with the presence of an OH group in the C6 position of the starting acetophenone. II (R2 = azolyl) are formed even in the absence of catalyst.

IT 491-80-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(attempted preparation of)

RN 491-80-5 HCAPLUS

CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-methoxyphenyl)- (CA INDEX NAME)



IT 2258-42-6P, Formic acetic anhydride
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and cyclocondensation of, with hetarylacetophenones)

RN 2258-42-6 HCAPLUS

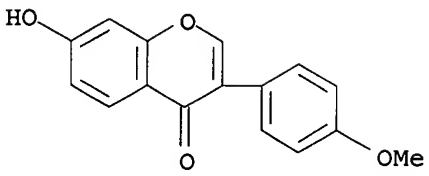
CN Acetic acid, anhydride with formic acid (CA INDEX NAME)

Ac—O—CHO

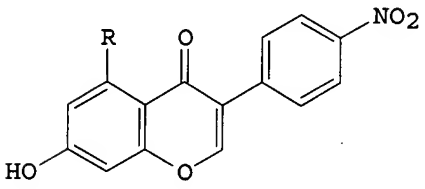
IT 485-72-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 485-72-3 HCAPLUS

CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-methoxyphenyl)- (CA INDEX NAME)



L15 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:6375 HCAPLUS
DOCUMENT NUMBER: 116:6375
TITLE: A facile and practical preparation of 5,7-dihydroxy-3-(4-nitrophenyl)-4H-1-benzopyran-4-one
AUTHOR(S): Liu, D. F.; Cheng, C. C.
CORPORATE SOURCE: Cancer Cent., Univ. Kansas, Kansas City, KS, 66103, USA
SOURCE: Journal of Heterocyclic Chemistry (1991), 28(6), 1641-2
CODEN: JHTCAD; ISSN: 0022-152X
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 116:6375
GI



I

AB In spite of the fact that several preparative methods for the synthesis of hydroxylated isoflavones were reported during the past fifty years, none is suitable for the preparation of isoflavones containing 5,7-dihydroxy functions.

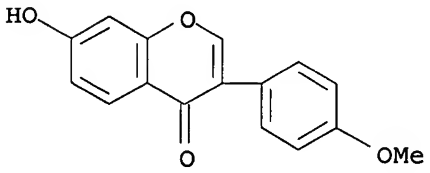
This paper reports a simple, large scale preparation of 5,7-dihydroxy-3-(4-nitrophenyl)-4H-1-benzopyran-4-one (I, R = OH) by the condensation of the readily available 2,4,6-(HO)3C6H2COCH2C6H4NO2-4 and acetic formic anhydride in high yields. Similar isoflavones, such as I (R = H), can also be obtained in good yields in an analogous manner.

IT 2258-42-6P, Acetic formic anhydride
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(formation and cyclocondensation of, with phenyl(hydroxyphenyl)ethanones)
RN 2258-42-6 HCAPLUS
CN Acetic acid, anhydride with formic acid (CA INDEX NAME)

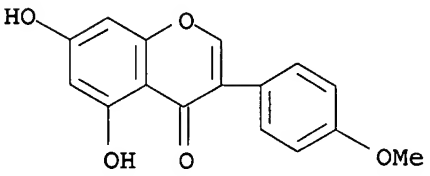
Ac—O—CHO

IT 485-72-3P 491-80-5P

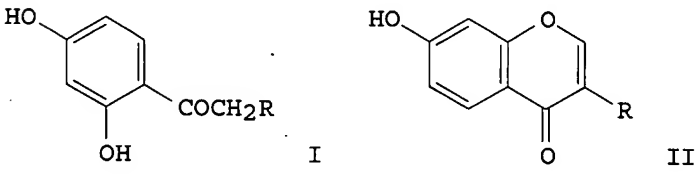
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 485-72-3 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-methoxyphenyl)- (CA INDEX NAME)



RN 491-80-5 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-methoxyphenyl)- (CA INDEX NAME)

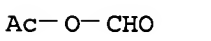


L15 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:405988 HCAPLUS
DOCUMENT NUMBER: 113:5988
TITLE: Simple and effective synthesis of isoflavones and 3-arylhydroxychromones
AUTHOR(S): Pivovarenko, V. G.; Khilya, V. P.; Vasil'ev, S. A.
CORPORATE SOURCE: Kiev. Gos. Univ., Kiev, USSR
SOURCE: Khimiya Prirodnykh Soedinenii (1989), (5), 639-43
CODEN: KPSUAR; ISSN: 0023-1150
DOCUMENT TYPE: Journal
LANGUAGE: Russian
OTHER SOURCE(S): CASREACT 113:5988
GI

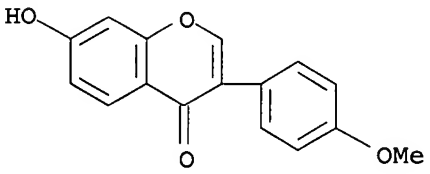


AB Cyclocondensation of acetophenones I (R = substituted Ph, PhO, p-FC6H4O) with MeCO2CHO, prepared from HCO2H and CH2:C:O, gave 15-99% isoflavones II. Similarly, I react with the Vilsmeier reagent to give 95.7-98.5% II.
IT 2258-42-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and cyclocondensation with hydroxyacetophenones, isoflavones from)

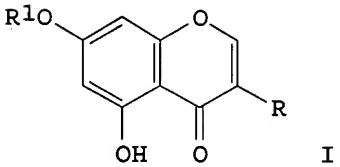
RN 2258-42-6 HCAPLUS
CN Acetic acid, anhydride with formic acid (CA INDEX NAME)



IT 485-72-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 485-72-3 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-methoxyphenyl)- (CA INDEX NAME)



L15 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1986:129748 HCAPLUS
DOCUMENT NUMBER: 104:129748
TITLE: Synthesis of 5,7-dihydroxyisoflavones and their heterocyclic analogs using acetoformic anhydride
AUTHOR(S): Pivovarenko, V. G.; Khilya, V. P.
CORPORATE SOURCE: Kiiv. Derzh. Univ., Kiev, USSR
SOURCE: Dopovidi Akademii Nauk Ukrains'koi RSR, Seriya B: Geologichni, Khimichni ta Biologichni Nauki (1985), (7), 44-7
CODEN: DANND6; ISSN: 0377-9785
DOCUMENT TYPE: Journal
LANGUAGE: Ukrainian
GI

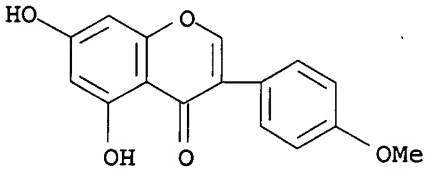


I

AB 2,4,6-(HO)3C6H2COCH2R [R = 2-pyridyl, 2-quinolyl, 2-methyl-4-thiazolyl, 5-(ethoxycarbonyl)-2-furyl, p-ClC6H4, o- and p-FC6H4, p-MeOC6H4, dihydro-6-benzodioxinyl] cyclized in the presence of HCO2Ac and either HCO2Na or Et3N to give the corresponding chromones I (R1 = H) in ≤100% yield. The intermediate I (R = heterocyclyl, R1 = HCO) were also isolated.
IT 2258-42-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclization with, of aryltrihydroxyacetophenones)
RN 2258-42-6 HCAPLUS

CN Acetic acid, anhydride with formic acid (CA INDEX NAME)

IT 491-80-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 491-80-5 HCAPLUS
CN 4H-1-Benzopyran-4-one, 5,7-dihydroxy-3-(4-methoxyphenyl)- (CA INDEX NAME)



L15 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1985:541792 HCAPLUS
DOCUMENT NUMBER: 103:141792
TITLE: Acetic formic anhydride as a cyclizing reagent in the synthesis of isoflavones and 3-hetarylchromones
AUTHOR(S): Pivovarenko, V. G.; Khilya, V. P.; Babichev, F. S.
CORPORATE SOURCE: Kiiv. Derzh. Univ., Kiev, USSR
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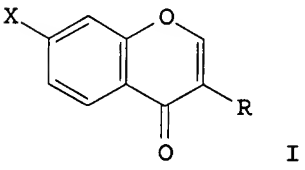
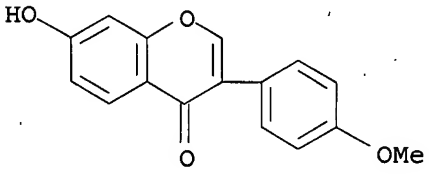


I

AB HCO2Ac catalyzed the cyclization of 2,4-(HO)2C8H4COCH2R [R = 2-pyridyl, 2- and 7-quinolyl, 2-methyl-4-thiazolyl, 5-(ethoxycarbonyl)-2-furyl, C6H4NO2-4, Ph, C6H4OMe-4, Me] in the presence of NaO2CH or Et3N to give ≤99% chromones I (X = HO, same R). The intermediate I (X = HCO2; R = 2-pyridyl, 2-quinolyl, 2-methyl-4-thiazolyl) were also isolated.
IT 2258-42-6
RL: CAT (Catalyst use); USES (Uses)
(catalysts, with base, for cyclization of dihydroxyacetophenones to chromones)
RN 2258-42-6 HCAPLUS
CN Acetic acid, anhydride with formic acid (CA INDEX NAME)

Ac—O—CHO

IT 485-72-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by cyclization of dihydroxyacetophenone derivative, catalysts
for)
RN 485-72-3 HCAPLUS
CN 4H-1-Benzopyran-4-one, 7-hydroxy-3-(4-methoxyphenyl)- (CA INDEX NAME)



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